

### **REMARKS**

Entry of this Amendment is proper under 37 C.F.R. 1.116, because the Amendment places the application in condition for allowance for the reasons discussed herein; does not introduce any new claims; does not raise any new issue requiring further search and/or consideration, and places the application in better form for an appeal should an appeal be necessary.

The Applicants thank the Examiner in advance for review and reconsideration of this Amendment and accompanying changes. Paragraphs below are numbered to correspond to Examiner's Office Action of March 1, 2005 for ease in identification.

Claims 1-33 are currently pending. Claims 8, 9, 15-27, 32 and 33 stand withdrawn as directed to non-elected subject matter. Claims 1, 5, 7, 10, 11, 13, 28, 29 and 31 have been amended. Support for these amendments may be found throughout the specification and claims as filed. No new matter has been added. In the Final Office Action, mailed March 1, 2005, previously presented amendments were not entered because they allegedly raise new matter. The alleged new matter is deleted without prejudice or disclaimer thereto, and therefore this rejection is obviated.

### **Rejections under 35 U.S.C. § 112**

4. Claims 1-7, 10-14 and 28-31 stand rejected under 35 U.S.C. 112, first paragraph, as the phrase "wherein the exogenous gene does not cross-hybridize with an homologous gene of the plant cell" is purportedly not supported by the specification.

In order to obviate the rejection and without acquiescing to the Examiner's rejection, the term "wherein the exogenous gene does not cross-hybridize with an

homologous gene of the plant cell" has been deleted from claims 1, 10 and 28. In view of this amendment the rejection is obviated, and applicants respectfully request that it be withdrawn.

5. Claims 1-7, 10-14 and 28-31 stand rejected under 35 U.S.C. § 112, first paragraph, because the specification, while enabling for a vector encoding the *Arabidopsis MinD* protein, plants and cells transformed with it, and a method of using it to produce a plant with one or a few chloroplasts, purportedly fails to provide enablement for vectors comprising a gene encoding a protein with the same functional activity as the *Arabidopsis MinD* protein, plants and cells transformed with them and a method of using them to produce a plant with one or few chloroplasts. Applicants believe the amendments made in this response obviate the rejection.

Specifically, applicants have amended the claims to recite a specified homology range, and submit that the amended claims allow one skilled in the art to identify the genes and proteins claimed without undue experimentation, and therefore put the claims in condition for allowance.

6. Claims 1-7, 10-14 and 28-31 stand rejected under 35 U.S.C. §112, first paragraph, for purportedly failing to comply with the written description requirement. Applicants believe the amendments made in this response obviate the rejection.

Applicants have amended the claims to recite a specified homology range. Applicants believe that the amended claims allow one skilled in the art to identify the genes and proteins claimed without undue experimentation and therefore put the claims in condition for allowance.

7. Claims 1-7, 10-14 and 28-31 stand rejected under 35 U.S.C. §112, second paragraph, for purportedly being indefinite. Applicants believe the amendments made in this response overcome the rejection.

Claims 1, 5-7, 10-13 and 28-31 stand rejected for the recitation of "exogenous". The claims have been amended to define exogenous within the claims, clarifying the intended invention.

Claims 1, 10 and 28 stand rejected for the recitation of "a protein with the same functional activity as a protein encoded by the *Arabidopsis thaliana* ... *MinD* gene". The claims have been amended to specify a homology range to make clear exactly which proteins are being referred to, those with at least 95% homology to the *Arabidopsis thaliana MinD* gene.

Claims 1, 10 and 28 stand rejected for the recitation of "wherein the exogenous gene does not cross-hybridize with an homologous gene of the plant cell". The claims have been amended by deleting the term "the exogenous gene does not cross-hybridize with an homologous gene of the plant cell". It is believed that deleting the term obviates the rejection and puts the application in condition for allowance.

Claims 5, 7, 11, 13, 29 and 31 stand rejected for the recitation of "significant amount of homology to a gene of *Arabidopsis thaliana*". The claims have been amended to specify a homology range to clarify the homology to a gene of *Arabidopsis thaliana*.

Claim 30 stands rejected for purportedly lacking antecedent basis for the term "vector according to claim 30". Applicants previously amended claim 30 to correct antecedent basis by replacing "vector" with "method", see Reply and Amendment dated January 3, 2005, page 8, listing of claims. However, claim 31 lacked antecedent basis and is amended herein by replacing "vector" with "method".

In light of the above remarks, Applicants respectfully request that the rejections under 35 U.S.C. §112, second paragraph, be withdrawn and the application be allowed.

**Claims Rejections under 35 U.S.C. §102**

8. Claims 1-7, 10-13 and 28-31 stand rejected under 35 U.S.C. 102(a) as purportedly anticipated by Colletti *et al.* (2000, *Curr. Biol.* 10:507-516). Applicants traverse.

The present independent claim 1 relates to a vector comprising an exogenous gene that is exogenous to the vector and the plant cell. Colletti *et al.* describes using an endogenous gene to the *Arabidopsis thaliana*. The invention disclosed in this application relates to using an exogenous gene that did not cross-hybridize, see page 16, lines 5-6. Tobacco plants were used as an example in the present invention, whereas the vectors of Colletti are expressed in an *Arabidopsis* plant cell and would cross-hybridize with the endogenous homologous gene of the plant cell. The fact that an exogenous, rather than an endogenous, gene is used is important to the present gene and is not disclosed in the cited references. In addition, the present invention allows for any plant or plant cell to be used, not just tobacco or *Arabidopsis*. These are important structural differences between the present invention and Colletti, which render the claimed invention novel over the cited reference.

Claim 28 has been amended to clarify that the affected plant cell is from the plant into which the vector was transformed in step B). Thus, claim 28 is further distinguished from Colletti *et al.*

9. Claims 1-7, 10-13 and 28-31 stand rejected under 35 U.S.C. 102(a) as purportedly anticipated by Kanamaru et al. (2000, *Plant Cell Physiol.* 41:1119-1128 and GenBank Accession No. AB030278, December 2000). Applicants traverse.

The present independent claim relates to a vector comprising an exogenous gene that is exogenous to the vector and the plant cell. Kanamaru *et al.* describes using an endogenous gene to the *Arabidopsis thaliana*. The invention disclosed in this application relates to using an exogenous gene that did not cross-hybridize, see page 16, lines 5-6. Tobacco plants were used as an example in the present invention, whereas the vectors of Kanamaru are expressed in an *Arabidopsis* plant cell and would cross-hybridize with the endogenous homologous gene of the plant cell. The fact that an exogenous, rather than an endogenous, gene is used is important to the present invention and is not disclosed in the cited references. In addition, the present invention allows for any plant or plant cell to be used, not just tobacco or *Arabidopsis*. These are important structural differences between the present invention and Kanamaru, which render the claimed invention novel over the cited reference.

Claim 28 has been amended to make clear that the plant cell affected is from the plant into which the vector was transformed in step B). Thus, claim 28 is further distinguished from the cited reference.

10. Claims 1-2, and 5-7 stand rejected under 35 U.S.C. 102(a) as purportedly anticipated by Huang *et al.* (1996, *J. Bacteriol.* 178:5080-5085).

Hung purportedly discloses expression vectors, but does not disclose an exogenous gene. As noted above, the claims are directed to the use of an exogenous gene. Further, the claims are amended to recite 95% homology to the protein encoded by the *Arabidopsis MinD* gene. Applicants believe that the claims

as amended herein distinguish the present invention from the Huang publication and put the application in condition for allowance.

In light of the above, Applicants request that the rejections under 35 U.S.C. § 102 be withdrawn.

**Conclusion**

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and as such, the present Application is in condition for allowance. If the Examiner believes for any reason that personal communication will expedite prosecution of this Application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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